



South Coast Air Quality Management District

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California Energy Commission

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TN # 69056

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December 21, 2012

Stephen O'Kane
Vice-President
AES Southland Development, LLC
690 N. Studebaker Road
Long Beach, CA 90803

Subject: Permit Applications for the Redondo Beach Energy Project, located at
1100 North Harbor Drive, Redondo Beach, CA 90277 (Facility ID# 115536)

Dear Mr. O'Kane:

The South Coast Air Quality Management District (AQMD) received permit applications for the Redondo Beach Energy Project (RBEP) on November 21, 2012. As a first step in our review process, we have briefly evaluated the applications to determine whether they are complete and ready for review. Based on our initial review of the submitted materials it has been determined that the application package is incomplete. The reference application numbers for this project and our initial review determination are provided in the table below:

Application	Equipment Description	Completeness Determination
545065	Title V/RECLAIM Significant Revision	Deemed Incomplete
545066	SCR/CO Catalyst	Deemed Incomplete
545067	SCR/CO Catalyst	Deemed Incomplete
545068	Mitsubishi Gas Turbine	Deemed Incomplete
545069	Mitsubishi Gas Turbine	Deemed Incomplete
545070	Mitsubishi Gas Turbine	Deemed Incomplete
545071	SCR/CO Catalyst	Deemed Incomplete
545072	Aqueous Ammonia Storage Tank	Deemed Incomplete

Please be aware that, in addition to the information required below, other information will be needed during the course of our full engineering evaluation. Your cooperation is key to the timely review of the applications. The following issues have been identified during the completeness review:

1. Appl. Nos. 545068, 545069, 545070—Gas Turbines
Please provide a guarantee for PM₁₀/PM_{2.5} emission rates, 4.5 lb/hr without duct burners and 9.5 lb/hr with duct burners, from the turbine manufacturer.
2. Appl. Nos. 545066, 545067, 545071-- SCR and CO Oxidation Catalyst
 - a. The Forms 400-E-5 - Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst indicate the SCR catalyst manufacturer and model no., and the CO oxidation catalyst manufacturer and model no. are to be determined. Please provide the manufacturer and model no. for both systems.

- b. Please provide guarantees for the emission rates for NO_x, CO, VOC, and ammonia, and the catalyst life from the SCR and CO catalyst vendors.
3. Start-up Emissions
- a. On pg. 5.1-13, Section 5.1.6.1.3 Turbine Emissions-Operations provides definitions, durations, and emissions per event for cold start event, warm start event, and hot start event. The incidence of a trip during an event was not discussed. A "trip" means an event in which the combustion turbine experiences an automatic equipment shutdown to prevent equipment damage or as a result of equipment malfunction. Please discuss how a trip would affect the definitions, durations, and emissions per event for cold, warm, and hot starts.
- b. On pp. 5.1-15 and 5.1-16, Section 5.1.6.1.4 Facility Emissions indicates 5 cold, 25 warm, and 60 hot starts per turbine per month, and 624 startups per year. Please provide a breakdown for the 624 startups per year.
4. Fast Start Technology
- On pg. 5.1-13, Section 5.1.6.1.3 Turbine Emissions-Operations states: "The MPSA 501DA is equipped with fast start technology and has the ability to reach full power within 10 minutes of initiating a startup." Please provide a technical discussion of the design considerations for the "fast start technology."
5. Emissions Offsets
- On pg. 5.1-32, Section 5.1.8.2.2 Emission Offsets discusses the retirement of Units 6, 7, and 8 under Rule 1304(a)(2), but not Unit 5. Are there current plans for the 175 MW from the retirement of Unit 5?
6. Health Risk Assessment
- Table 5.9-1-Air Toxic Emission Rates Modeled for RBEP on pg. 5.9-9 provides the basis of the air toxic emission factors in the footnotes. (The emission factors are listed in Table 5.1B.5a (BASIS: CATEF EMISSION FACTORS) found in Appendix 5.1B.)
- Footnote a states: "Emission rates based on the CATEF database, unless otherwise noted (ARB, 2012)." The SCAQMD requires the use of AP-42 emission factors.
 - Footnote d states: "Emission factor is based on a 120 parts per billion (ppbv) exhaust concentration for formaldehyde." The SCAQMD requires the use of the AP-42 emission factor.
 - Footnote e states: "Carcinogen PAHs only; naphthalene considered separately. Emission factor based on two separate source tests (2002 and 2004) from the Delta Energy center located in Pittsburg, CA (Avogadro Group, 2002; 2004)." If you wish to use the source test results, please provide a copy of each source test report. Otherwise, please use the AP-42 emission factor.

The emissions factors in Table 5.1B.5b (BASIS: AP-42 EMISSION FACTORS PER SCAQMD) are based on AP-42 emission factors, except that formaldehyde is still erroneously based on 120 parts per billion. The health risk assessments, however, appear to be based on the CATEF emissions factors in Table 5.1B.5a, not the AP-42 emission factors in Table 5.1B.5b. If this is correct, please revise the health risk assessments to use the AP-42 emission factors, including for formaldehyde.

7. GHG BACT Analysis



On pg. 5.1-32, Section 5.1.8.2.1—BACT Analysis states: "RBEP has concluded that the BACT for GHG emissions is an emission rate of 1,082 pounds CO₂/MWhr of gross energy output." Please provide supporting calculations for the emission rate.

8. Dispersion Modeling

Table 5.1-28-Turbine Commissioning Impacts Analysis-Maximum Modeled Impacts Compared to the Ambient Air Quality Standards on pg. 5.1-27, and Table 5.1-29—RBEP Operation Impacts Analysis—Maximum Modeled Impacts Compared to the Ambient Air Quality Standards on pg. 5.1-28 include the maximum modeled concentration for each criteria pollutant and associated averaging periods. Please provide the basis for the calculation of the maximum emissions on which each maximum modeled concentration for each averaging period was based.

If you have any questions regarding your permit applications please contact Ms. Vicky Lee at (909) 396-2284 or vlee1@aqmd.gov.

Sincerely,

Brian L. Yeh
Senior Manager
Mechanical, Chemical, and Public Services Team
Engineering & Compliance

BLY:AYL:JTY:VL

Cc: Mohsen Nazemi
Patricia Kelly, CEC